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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,963	03/27/2001	Klaus Lowack	GR 00 P 1583	9891

7590

04/04/2003

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EXAMINER

TALBOT, BRIAN K

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 04/04/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/817,963	LOWACK ET AL.
Examiner	Art Unit
Brian K Talbot	1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of.
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/4/03 has been entered.
2. The un-entered amendment filed 1/28/03 has been entered per filing of the continued examination under 37 CFR 1.114 noted above. Claims 4-7 remain in the application.

Claim Rejections - 35 USC § 103

3. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbach et al. (5,021,129) in combination with Angelopoulos et al. (6,136,513) further in combination with Bickford et al. (5,800,858) still further in combination with either Schupp et al. (4,596,759), Beyne et al. (6,362,484 B1) or Conrod et al. (5,998,237).

Arbach et al. (5,021,129) teaches applying an electroactive layer (32) and then another electroactive layer (34). Patterning of the second layer (34) is performed to form areas (36). These areas (36) are then activated by seeding and then metallized to form conductive traces.

Angelopoulos et al. (6,136,513) teaches applying a photoresist layer to a substrate, treating the photoresist layer prior to applying a seed layer and another photoresist layer. The second photoresist layer is imaged and conductive traces are formed by metallization.

Therefore, it would have been within the skill of one practicing in the art to have modified Arbach et al. (5,021,129) process by implementing a "pretreatment step" as evidenced by Angelopoulos et al. (6,136,513) because of the advantages associated with such a step, i.e. reducing the amount of seeding utilized.

In addition, it would have also been within the skill of one practicing in the art to have modified Angelopoulos et al. (6,136,513) process by forming and developing the second photoresist prior to applying the seed layer as evidenced by Arbach et al. (5,021,129) because of the expectation of achieving similar results as well as the fact that the amount of seed material utilized could be reduced due to the smaller area for which the seed is applied, i.e. no waste of seed material.

Arbach et al. (5,021,129) in combination with Angelopoulos et al. (6,136,513) fail to teach the thickness of the dielectric films being not greater than 50 microns (about 2.1 mils).

Bickford et al. (5,800,858) teaches a similar process whereby the thickness of the polymer films are from 0.3 to 5 mils in thickness which are imaged, developed and seeded prior to metallization. More than one layer of the polymer can be utilized with the layers being of the same polymeric material.

Therefore, one skilled in the art would have had a reasonable expectation of achieving similar success by modifying Arbach et al. (5,021,129) in combination with Angelopoulos et al.

(6,136,513) process by utilizing the same polymeric material for the layers having a similar thickness as evidenced by Bickford et al. (5,800,858).

Arbach et al. (5,021,129) in combination with Angelopoulos et al. (6,136,513) further in combination with Bickford et al. (5,800,858) fail to teach the second insulating layer being a photosensitive material.

Schupp et al. (4,596,759), Beyne et al. (6,362,484 B1) or Conrod et al. (5,998,237) all teach utilizing photosensitive materials for forming electrical products. The photosensitive material is taught to be permanent and not removed from the substrate by a stripping step.

Therefore, it would have been obvious at the time the invention was made to have modified Arbach et al. (5,021,129) in combination with Angelopoulos et al. (6,136,513) further in combination with Bickford et al. (5,800,858) process by incorporating a photosensitive insulating layer as evidenced by Schupp et al. (4,596,759), Beyne et al. (6,362,484 B1) or Conrod et al. (5,998,237) because of the advantages associated with its use, i.e. no additional resist and stripping step is necessary.

With respect to claims 6 and 7, the claims recite "imaging" the first layer as well as the second layer. It is the Examiner's position that this has been shown to be conventional in the art and one skilled in the art would have had a reasonable expectation of achieving similar success and benefits associated with the steps.

Response to Amendment

4. Applicant's arguments with respect to claims 4-7 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Talbot whose telephone number is (703) 305-3775. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3775.



Brian K Talbot
Primary Examiner
Art Unit 1762

BKT
April 2, 2003